

Listing of the Claims

1. (currently amended) A method for determining adhesive resin distribution on wood ~~flakes~~substrate to be formed into a wood-based composite, where an adhesive resin has been applied onto the wood ~~flakes~~substrate, said method comprising the steps of:

obtaining a sample of wood ~~flakes~~substrate having applied adhesive resin and placing the sample wood ~~flakes~~substrate on a scanning bed;

scanning the wood ~~flakes~~substrate to provide image data;

using image analysis software with resin analysis macros installed on a computer wherein the image data of ~~a wood flake~~the wood substrate is filtered to provide a high contrast image that shows each adhesive resin spot differentiated from a bare wood ~~flakes~~substrate on which the adhesive resin spot is situated; and

measuring and analyzing the high contrast image, using the image analysis software with resin analysis macros, to provide an output showing at least a percent coverage of the wood ~~flakes~~substrate by the adhesive resin.

2. (new) The method of claim 1 further including, after obtaining the sample of wood substrate having applied adhesive resin, heating the wood substrate until spots of adhesive resin are substantially differentiable from a portion of the wood substrate that is not covered by adhesive resin.

3. (new) The method of claim 2, wherein the sample of wood substrate is heated at 250 degrees Fahrenheit.

4. (new) The method of claim 3, wherein the sample of wood substrate is heated for a time between 15 minutes and 45 minutes.

5. (new) The method of claim 1, wherein the wood substrate comprises wood flakes, and wherein measuring and analyzing the high contrast image includes:

determining an area of the adhesive resin spots,

determining an area of the wood flake on which the adhesive resin spots are situated,

determining a percent coverage of the area of the wood flake by the adhesive resin spots, and

determining an average percent coverage area of a preselected number of wood flakes by the adhesive resin spots.

6. (new) A system for determining adhesive resin distribution on adhesive resin blended wood substrate for wood-based composite production, comprising:

a flatbed scanner arranged to receive a sample of the adhesive resin blended wood substrate from an output of a blender, for scanning the adhesive resin blended wood substrate to provide image data to image analysis software with resin analysis macros; and

a computer having the image analysis software with resin analysis macros installed thereon, the computer being arranged to receive the image data from the flatbed scanner and configured for filtering the image data to provide a high contrast image that shows each adhesive resin spot differentiated from a bare wood substrate on which the adhesive resin spot is situated, for measuring an area of each adhesive resin spot and the area of bare wood substrate on which the adhesive resin spot is located and for analyzing the image data to provide an output showing at least a percent coverage of the wood substrate by the adhesive resin.

7. (new) A method for determining adhesive resin bond quality on wood samples pulled from a wood-based veneer composite that has been vacuum/water-soaked for a predetermined amount of time, to provide a grade for the wood-based veneer composite, said method comprising the steps of:

heating the wood samples pulled from the wood-based composite for one of a predetermined time and until the wood samples are substantially dry;

placing said wood samples on a scanning bed;

scanning said wood samples to provide image data;

using image analysis software with resin analysis macros installed on a computer wherein the image data of each wood sample is filtered to provide a high contrast image that shows each adhesive resin spot differentiated from bare wood on which the adhesive resin spot is situated; and

measuring and analyzing the high contrast image, using the image analysis software with resin analysis macros, to provide an output showing at least a percent resin coverage/wood failure percentage of the wood sample.

8. (new) The method of claim 7, wherein the grade is also based on at least one of a selected cure time, a press time, a press temperature and the adhesive resin used to manufacture the wood-based veneer composite.

9. (new) The method of claim 7, wherein measuring and analyzing the high contrast image includes: determining an area of the adhesive resin spots, determining an area of each wood sample on which the adhesive resin spots are situated, determining a percent coverage of the area of the wood sample by the adhesive resin spots, and determining an average percent coverage area of a preselected number of wood samples by the adhesive resin spots.